

## CLAIMS:

1. An electronic data processing circuit that uses current mode signalling, the circuit comprising

- a data source circuit with an output for a logic signal;
- a data receiving circuit;

5 - a communication conductor;

- a transition coding circuit coupled between the data source circuit and the communication conductor, for driving the communication conductor in a first state in pulses in response to transitions in the logic signal and in a second state outside the pulses;

10 - the data receiving circuit comprising a current supply and measuring circuit coupled to the communication conductor for supplying a current to the communication conductor to counteract the driving of the communication conductor, the data processing circuit being constructed so that the current that needs to be supplied is smaller when the communication conductor is driven in the second state than when the communication conductor is driven in the first state, the current supply and measuring circuit recovering the logic signal from 15 measurements of the current.

2. An electronic data processing circuit according to Claim 1, the current supply and measuring circuit defining a threshold potential of the communication conductor at which the current substantially starts increasing from zero, the transition coding circuit and

20 the current supply and measuring circuit being constructed so that the potential of the communication conductor remains at the threshold or on a substantially zero current side of said threshold when the transition coding circuit drives the communication conductor in the second state.

25 3. An electronic data processing circuit according to Claim 1, the current supply and measuring circuit comprising

- a current mirror circuit with an input coupled to the communication conductor; and
- a capacitive voltage measuring circuit coupled to an output of the current mirror.

4. An electronic data processing circuit according to Claim 3, comprising a refresh transistor with a main current channel coupled in parallel with the input of the current mirror and a control electrode coupled to an output of the current mirror, for making the main current channel conductive each time when one of the pulses has been detected.

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5. An electronic data processing circuit according to Claim 3, wherein the transition coding circuit comprises a driver circuit with a first transistor coupled between the communication conductor and a first power supply line, and a series connection of main current channels of a second transistor and a voltage limiting transistor coupled between the communication conductor and a second power supply line, the first transistor driving the communication conductor during pulses, the limiting transistor limiting a voltage level to which the driver drives the communication conductor outside the pulses to a threshold level of the current mirror.

15 6. An electronic data processing circuit according to Claim 3, the capacitive voltage measuring circuit comprising

- a reset transistor with a main current channel coupled to the output of the current mirror, for discharging the output of the current mirror;  
- a delay circuit between the output of the current mirror and a control electrode of the reset transistor for activating said discharging each time with a delay after detecting one of the pulses.

20 7. An electronic data processing circuit according to Claim 3, wherein the current supply and measuring circuit is combined with a further driver, the further driver comprising a first transistor with a main current channel coupled between the communication conductor and a first power supply line in series with the input of the current mirror and a second transistor with a main current channel coupled between the communication conductor and a second power supply line, the data processing circuit being arranged to supply pulses to control electrodes of the first and second transistor, so that the main current channel of the first and second transistor are made conductive and non-conductive respectively during the pulses, when data to be transmitted from the data receiving circuit changes.